

## PATENT ABSTRACTS OF JAPAN

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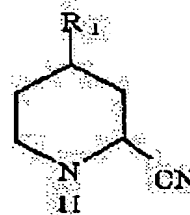
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## (54) PRODUCTION OF TRANS-4-SUBSTITUTED-2-PIPERIDINECARBONITRILE

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a method for producing the subject compound having a high purity of diastereomer in a high yield without being accompanied with corrosion of the material of reactor by reacting a specific substituted piperidine compound with hydrogen cyanide in the presence of a non-halogenic mineral acid catalyst.

**SOLUTION:** This method for producing the subject compound comprises reacting a 4-substituted-piperidin-1-ene compound of formula I (R<sub>1</sub> is a saturated 1-4C alkyl) (for example, 4-methylpiperidin-1-ene) with hydrogen cyanide in the presence of a non-halogenic mineral acid catalyst (preferably, sulfuric acid, nitric acid and phosphoric acid) to obtain the objective compound of formula II. Isolation and purification procedures of the objective compound from the resulting reaction product are preferably carried out in a condition satisfying that the pH of the liquid to be treated is within the range of pH9 to pH13. The hydrogen cyanide and the non-halogenic mineral catalyst are preferably used in amounts of 1-2.5 equivalents and 1-1.2 equivalents per equivalent of the compound of formula I, respectively. The reaction is preferably carried out at 0-20° C for 0.2-24 hr.



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